



CLASSROOM INNOVATION IN MATHEMATICS GRANT 2010-11

OVERVIEW

Purpose: From 2005 to 2009, state scores in mathematics were stagnant, rising only one percentage point over the four-year span. At the state level, IDOE is currently exploring new, innovative classroom strategies that will help to push mathematics in Indiana forward. One such strategy is the integration of digital curriculum and technology into traditional teaching methodologies.

The purpose of the program is to provide a select number of LEAs with the opportunity to use digital mathematics curricula, technology-based instruction, and interactive white boards in lieu of traditional textbooks. This grant provides an opportunity for LEAs to pilot digital curriculum which can be readily aligned to changes in standards and to determine its effectiveness with their student populations and within their contexts. Following the grant, LEAs will either continue the use of digital curriculum through their textbook rental program or discontinue use of the digital curriculum and seek an alternative for curricular materials. Digital curriculum would need to utilize innovative strategies for instruction and represent a significant break from the traditional textbook-oriented instruction and be approved by the IDOE, but it would not serve as a standalone, online course that replaces the classroom teacher. In order to evaluate the effectiveness of these strategies, awards will be limited to schools that propose plans for either: 6th Grade, 7th Grade, 8th Grade, and/or Algebra I. The results of this pilot program will be used to evaluate the effectiveness of digital curriculum and provide data for schools that may look at adopting digital mathematics curricula in the future.

This grant program is funded through the David C. Ford Fund.

Application: Please fill out each part completely. For assistance, you may contact Zach Foughty at zfoughty@doe.in.gov or Phone: (317) 233-5019

I. GENERAL INFORMATION

1. Corp # 8060	2. Corp Name Wabash City Schools	
3. Corp Address (Street, City, State, Zip) 1101 Colerain Street Wabash, IN 46992		4. Telephone 260-563-2151
5. Contact Person's Name Danielle Miller		6. Contact Person's Email Address millerd@apaches.k12.in.us
7. Contact Person's Address (Street, City, State, Zip) 1545 North Wabash Street Wabash, IN 46992		8. Contact Person's Telephone 260-571-9250
9. Superintendent's Name Celia Shand		10. Superintendent's Email Address shandc@apaches.k12.in.us
11. # of Schools Participating: 2	12. # of Students Being Served: 450	13. # of Teachers Participating: 6





II. Project Abstract

Briefly describe the proposed project clearly and concisely using the space provided.

In January 2010, Wabash City Schools received a Cadre 3 grant whose vision is "increased county-wide collaborative capacity, technology supported instructional design and student-focused technology classroom engagement." Through this grant, Wabash City Schools has partnered with both MSD of Wabash County and Manchester Community Schools to create "Project Continuity," the county-wide initiative that will help bring digital-media rich classrooms to the students of Wabash County. Receiving the Math Innovation Grant will bring Wabash City Schools one step closer to the vision set forth in the Cadre 3 grant. It will allow not only more Smart classrooms to be installed (six extra – four at the middle school and two at the high school) and four mathematics computer labs to be created, but it will do something the Cadre 3 grant will not: provide digital mathematics curriculum to every student in 6th through 8th grade at Wabash Middle School, as well as every student taking Algebra I at Wabash High School. This grant is a perfect extension of what has been put in motion with the receiving of the Cadre 3 grant. *nice*

Currently, the mathematics teachers at the middle school and high school vary on the type of technology utilized in the teaching of mathematical concepts because there isn't consistency in the availability of technology to all teachers and students. Technology available ranges from no access to access to mini-labs and some Smart Board technology received through local grants that teachers have written. Through the Math Innovation Grant, Wabash City Schools will do the following:

- Initiate the use of the Agile Minds digital curriculum as the primary mathematics curriculum for all 6th through 8th grade students at Wabash Middle School, as well as all Algebra I students at Wabash High School;
- Create six digital-media rich mathematics classrooms (four at the MS and two at the HS) that will deliver classroom content via Smart interactive technology;
- Install and deliver differentiated instruction and online testing opportunities in mathematics computer labs (two 28-station computer labs at both the MS and the HS);
- Utilize Acuity unilaterally at Wabash Middle School and for Algebra I students at Wabash High School (WCS applied for Acuity in March 2010);
- Administer ISTEP+ online to all 8th grade students in spring 2011 with the intent of expanding this offering to students in 7th and 6th grades respectively in the future, and;
- Continue the administration of the Algebra I ECA online to all students taking the course.

The main objective of this grant is to increase student achievement to meet or exceed AYP requirements. The outcomes are increased student-centered and learner-focused instructional design through the integration of digital curriculum and use of technology and increased student access to web-based digital curricular content and resources.

The second objective is to develop systematic instructional design strategies that increase the integration of selected technologies into the mathematics classroom. The outcomes are implementation of an instruction design of best practice guidelines and strategies, identification of proven and promising classroom technologies to increase student access to emerging classroom technologies that support more engaged learning environments, and increased student access to selected classroom technologies.

The third objective is to provide job-embedded faculty professional development that provides innovated *ive* strategies for technology integration and instructional design that is on-site and on-going. The outcome of changing pedagogy through professional development is what makes this grant's initiative sustainable for future teaching practice.



Please complete **one** grant narrative for your LEA which includes all schools. Narratives should be double spaced, 12pt Times New Roman font, and not to exceed 10 pages.

III. GRANT NARRATIVE

Software Choice and Rationale: Identify the digital content program you have selected. Describe how this program aligns with the purpose of the grant. Describe how this program will address the instructional needs of your students and teachers.

We have selected Agile Minds as our digital curriculum. This program creates an interactive learning environment where teachers and students can utilize Smart technology to explore, learn and practice mathematical content. Upon evaluating the program, we have found that it includes five basic elements we believe are necessary to support high quality instruction and support student learning and growth. They are as follows:

- professional development for teachers to aid in the knowledge of both math content and pedagogy,
- lesson planning to ensure alignment to and coverage of standards,
- presentation tools that engage students in learning content,
- formative assessments to give immediate feedback to students and guide instruction, and
- instructional support that allows students access to the software to review concepts not yet mastered.

These elements are central to the Math Innovation Grant. The focus of Agile Minds is to meet mathematical standards by building conceptual understanding of mathematical content where the teacher is the center of educational delivery. This program does not replace the teacher, but instead gives the teacher the tools to deliver content in an interactive way that is engaging to students. The integration of the formative assessments will allow the teacher to identify what students know and are able to do in order to create activities for whole group, small group and individual instruction.



Professional Development: Describe the PD needs of your teachers for using interactive whiteboards and implementing digital curriculum and detail the specific plan for meeting those needs.

There are two areas of professional development that we believe are invaluable in making this program effective. The first is the training on the actual technology and digital curriculum to be utilized, and the second is on-going professional development and teacher support that is embedded into the daily practice of the school. Teachers will need professional development on Smart Board technology, Acuity, and Agile Minds. They will then need to be able to have support through a “resident expert” and have time to discuss how the implementation plan is going so areas of concern can be identified and addressed quickly.

Knowing the importance of integrating technology into the classroom and embedding support into the school environment, Wabash City Schools added a Software Integration Specialist in the fall of 2009. In January 2010 she attended the Smart Technology training in Chicago and is now a Smart Certified Trainer. This specialist is our “resident expert” and is located in the middle school, which sits right next to the high school on the same campus. She has spent the majority of her time this school year working with middle school and high school teachers on integration of technology. She has held mini-sessions that cover topics such as Smart Board use and lesson planning, Moodle, Microsoft Office tools, Open Office tools, and various online resources available to teachers. These mini-sessions have occurred through team time and Apache Way Time, which is a weekly 30-minute collaboration sessions where students attend convocations, lectures, and activities while teachers meet together to collaborate. The Integration Specialist has also met with teachers individually to ensure they receive the specialized support and resources necessary to be successful.

The Cadre 3 grant includes a training plan for all teachers who receive Smart technology through the implementation of the grant. Consequently, the professional development the math teachers will need to utilize the technology received through the Math Innovation Grant is already in place and ready to proceed via the Cadre 3 grant during the 2010-2011 school year. There are four modules of training scheduled throughout the year that will address all areas from basic use to lesson planning to instructional presentation



skills. To ensure the math teachers particularly have all of the basic skill knowledge to begin using the digital curriculum the first week of school, the Software Integration Specialist will provide the beginning modules of Smart technology training prior to the beginning of school for the math department specifically. Beyond the use of the Smart technology, the teachers will need professional development in the use of Acuity, as Wabash City Schools has applied to participate in March 2010. The Acuity training will be provided this fall through the Indiana Department of Education. Two days of Agile Mind training will be provided this summer prior to the start of school. It will introduce teachers to strategies that help them effectively use the digital curriculum and its resources to enhance student outcomes. During the school year there will be three Agile Minds Advisor Sessions to ensure teachers have the understanding of the services essential to student success. This training will be set up once we receive the Math Innovation Grant in May. Professional development funds included in this grant will be utilized for the payment of substitute teachers to cover the math teachers' classrooms while they are receiving the training on Acuity during the school year and for stipends to the teachers themselves as they receive training during the summer for Agile Minds so they are up and running the first day of school with the new curriculum. The stipends for the Smart technology training they will need will be covered through the Cadre 3 grant.

Implementation Plan – Digital Content: Describe your plan for monitoring the implementation of the digital content with fidelity to program guidelines.

To gain well-rounded insight into what the use of technology and digital-curriculum looks like, the monitoring of the implementation of this initiative will be two-fold: it will include administrator monitoring and input, as well as teacher monitoring and input. Administrators will be monitoring the implementation through the use of weekly administrative walk-throughs, and the teachers will be monitoring implementation through the use of monthly instructional audits. By each of these groups gathering ongoing data and sharing it with one another in a systematic way, fidelity will not just be discussed, but be based upon real data.



Administrators will complete weekly walk-thoughts that will focus on the use of technology by both teachers and students. They will be looking for classroom integration and use of the technology by the teacher, student interaction and use of the classroom technology, and student use of the computer labs in a systematic way that supports formative assessment as well as differentiated instruction and practice. Agile Minds provides school and district leaders with professional development that includes specific instruction on what to look for and a checklist of observable traits indicative of productive, stage-appropriate implementation. These observations are formalized into a monthly review that informs staff and the Agile Minds advisor of potential needs to be addressed.

Teachers will complete a monthly instructional audit reflecting the targeted outcomes of effective integration of technology and digital curriculum in the classroom. These outcomes will be based upon both the requirements of the grant, as well as research-based instructional strategies. The purpose of the instructional audit is to assess the implementation of the professional development. These monthly audits will give feedback concerning the implementation and use of the technology, the Agile Minds curriculum, and Acuity. It is important that teachers are involved in the analysis of the data collected, as it will guide the availability of future professional development based upon the needs defined in the data.

Utilizing these methods together will give a holistic view of what is occurring during the implementation of the initiative. Administrators are the outsiders looking into the classroom, the persons who “spot check” to see what tools and strategies are being utilized on specific dates and how they are being utilized. While this form of monitoring is essential to fidelity, it needs a complementary piece: the teacher instructional audit. Without the use of the teacher instructional audit, walk-throughs do not get to the heart of what is happening daily in the classroom. The instructional audits will finish the picture of what is being implemented. These two monitoring tools complement one another and will help the instructional staff to find out not only what is happening and to what extent, but also what needs to be changed to ensure the process is continually

*what data is collected? how?
how shared?*

not well explained



growing and changing for the betterment of the students. It helps move the initiative from a good one to a great one.

Implementation Plan – Interactive Whiteboards: Outline your current inventory of interactive whiteboards, how you can realign current inventory to meet program goals of one interactive whiteboard per classroom mathematics teacher, and what funds you would apply for in order to address these gaps.

Wabash City's technology goal is to ensure every core content classroom grades K-12 is equipped as a digital-media rich classroom. Currently, Wabash City Schools has eighteen Smart Boards spread out over forty-seven classrooms in grades kindergarten through eighth grade. There are currently no Smart Boards in the seventeen core content classrooms at Wabash High School. During the 2010-2011 school year, we will be adding an additional thirty-two Smart Boards in grades K-12 through the Cadre 3, High Ability, and special education ARRA grants. Although these grants will take us a step closer to meeting our goal, covering 50 of the 64 classrooms, we will still be short of that goal by fourteen.

This grant is a part of a bigger picture for WCS. With it we can come even closer to what we have set out to do for our students – having equal access to technology in every core content area at every grade level K-12. The receiving of the Math Innovation Grant would add an additional six Smart classrooms and allow us to divert Smart technology from the other grants into areas that would not have originally been able to be covered. It would ensure that 56 out the current 64 core content classroom in grades kindergarten through twelfth grade would have a digital-media rich classroom by the end of 2010-2011 school year, leaving only eight core classrooms short of our goal. These additional classrooms would be top priority in the 2011-2012 school year as more grant become available to our school system. This grant would also allow the middle school mathematics and high school Algebra I mathematics teachers to be the first to receive and have this technology installed. They would be leading the charge to move to a more digital-content based curriculum.

completely backwards



Implementation Plan – Online Assessments: Describe each school's capacity and commitment to administer online ISTEP+ and ECA assessments, as well as Acuity Assessments, both with and without additional lab space that grant funds could provide. Describe how teachers will ensure that students are trained on how to properly complete online assessments.

Currently, all students enrolled in Algebra I at both Wabash Middle School and Wabash High School take the Algebra I ECA online; however, no students in grades six through eight take ISTEP+ online. There are 55 computers available at one time for ISTEP+ testing, and an average class of students at Wabash Middle School is 110. Adding the two additional computer labs at the middle school through this grant would raise the availability to 111 computers, and the addition of two labs at the high school through this grant would raise the availability to 167 computers. Our primary concern when administering ISTEP+ is test question security. We do all within our power ensure that each student at each grade level takes the same test simultaneously to ensure there is no breach in testing protocol that could hinder the test's validity and/or reliability. We do not split students into various groups taking the test at various times so we can ensure to the greatest extent possible they are not able to discuss the test in between testing sessions. Of course, there are always exceptions, such as students who are absent; however, our testing protocols are such that we do all within our power with the students we have on a particular testing date.

Knowing this, and keeping test security at the forefront, Wabash Middle School would have the capability to test every 8th grade student on ISTEP+ during the spring 2011 testing cycle with the goal of adding additional grade levels in subsequent years. This grant would ensure our ability to move in the direction of online testing, beginning with our eighth grade class. However, without this grant and the extra computer labs it would add, online testing of ISTEP+ is not an option for our district at this time.

Wabash City Schools has been utilizing NWEA online for many years, so the need to train the eighth grade students on how to properly complete an online assessment will be minimal at most. These students have been taking NWEA online twice a year for approximately five years. In addition to NWEA being taken on the



computer, students also take the STAR reading test online, as well as the core content quarterly assessments developed through STI online so they are extremely familiar and comfortable with online testing. The only training teachers would need to give is the specific instructions as they pertain to both the ISTEP+ and Acuity assessment themselves, such as signing in, basic page format and so on.

IV. BUDGET

See program overview for allowable costs. List each expenditure on a separate line.

Expenditures Budget
(Use a separate line for each expenditure, and add rows as needed)

Expenditure Description	Person Responsible	Cost per Unit	Number of Units	COST
Digital curriculum subscriptions (list vendor): Agile Minds	Keith Lang, Technology Director	30	450	13,500
Professional development reimbursements	Danielle Miller, Director of Curriculum and Instruction	300	6	1,800
Interactive whiteboard (list make and model number) Smart / SB680	Keith Lang, Technology Director	3,450	6	20,700
Acuity Algebra set-up fee: Do not have a set up fee if the district is using Acuity in other grade levels already	n/a	0		
Cost for Acuity Algebra administration (per student)	Danielle Miller	2.00	150	300
Costs related to online assessment: computer labs for middle school and high school	Keith Lang	12,500 per lab	4	50,000
Total Funds Requested				\$86,300

LOCAL SHARE*

*This is not a requirement for the grant, but it will help us to determine the additional resources need at the local level.

Expenditures Budget
(Use a separate line for each expenditure, and add rows as needed)

Expenditure Description	Person Responsible	Cost per Unit	Number of Units	COST
Professional Development: SmartBoard Technology Training including materials, substitutes all through the Cadre 3 grant	Danielle Miller	Professional Development Amount through Cadre 3: \$36,440	Ongoing dates through 2010-2011 school year	36,440
Integration of curriculum into the digital classroom by the WCS Integration Software Specialist and Director of Curriculum and Instruction	Keith Lang	5,000	4	20,000
Additional lab set up : furniture, electricity, network cabling, switches	n/a	0	0	0
Additional Costs for Interactive Whiteboard (e.g. installation materials): none as installation services will be provided by our in-house staff	Bruce Maxwell, Head of Maintenance and Grounds	125,000	Entire school	125,000
Electrical upgrade to Wabash Middle School during summer 2010 to ensure all technology received via Cadre 3 and Math Innovation Grant will be supported				
Total Funds Requested				181,440



V. ASSURANCES

By checking each box below, you agree to the following assurances:

- ☒ The LEA assures that Acuity online assessments will be administered to assess student growth during the grant period (e.g. Acuity Predictive or Pre/Post Test; the exact assessments will be determined by the DOE, but will not exceed 3 tests during the school year, excluding ISTEP+ and ECA).
- ☒ The LEA assures that, given favorable results on a statewide level, it will give serious consideration to sustained use of digital curricula in all schools in the LEA until the next textbook adoption cycle (2016-17 school year).
- ☒ The LEA assures that the selected digital curriculum will be implemented, with fidelity, as the core curriculum for all mathematics classrooms (6th Grade, 7th Grade, 8th Grade, and/or Algebra I) at each school that receives grant funds, for the duration of the school year. "With fidelity" implies that districts will take the steps necessary to implement the digital curriculum as outlined by the vendor.
- ☒ The LEA assures that teachers will be provided with professional development necessary to implement digital curriculum with fidelity. Professional development includes, but is not limited to, training on digital curriculum software, integrating interactive whiteboards into a standards-based classroom, and using Acuity assessments to guide instruction.
- ☒ The LEA assures that funds used for interactive whiteboards will remain in mathematics teacher classrooms for the duration of the program. Any realignment of current inventory for these purposes will also remain in effect for the duration.
- ☒ The LEA assures that all 7th and 8th grade students in Algebra I will take the Algebra ECA online.
- ☒ The LEA assures that all students will take the ISTEP+ online, unless the school can demonstrate an inability to test all students online.
- ☒ The LEA assures that all teachers that use digital curriculum will participate in an *anonymous* evaluation of the program to determine its ability to impact teaching methods.
- ☒ The LEA assures that classrooms in which digital curriculum is being used will be available for observation by certain members of the Department of Education, with reasonable notification, to provide for a qualitative analysis of program effectiveness.
- ☒ The LEA assures that all students will complete a survey regarding the effectiveness of the digital curriculum.
- ☒ The LEA assures that all hardware and software implementations will be put in place before the start of the 2010-11 school year and that professional development related to this program will begin before the start of the 2010-11 school year.
- ☒ The LEA agrees to keep such records and to provide such information to the State educational agency, as may be reasonably required for fiscal audit and program evaluation (consistent with the responsibilities of the State educational agency under this part).



VI. SIGNATURES

List the management team of this grant for each school. Each member of the management team should also sign below. Complete this sheet for *each* school that is included in the district's implementation plan.

School Name:

Grade Levels:

<u>NAME</u>	<u>POSITION</u>	<u>Signature</u>
1. Celia Shand	Superintendent	<i>Celia Shand</i>
2. Danielle Miller	District Math Coordinator	<i>Danielle M. Miller</i>
3. Jan Roland	District Assessment Coordinator	<i>Jan I. Roland</i>
4. Jason Callahan	Principal	<i>Jason Callahan</i>
5. Karen Brown	Math Department Chair	<i>Karin Brown</i>